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| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/554,392 | ROG ET AL. | |
| | Examiner | Art Unit | |
| | Eva Yi Zheng | 2611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/28/06.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date <u>11/20/06</u> 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|--|---|

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Alan Kasper on November 20, 2006.

2. The following changes to the drawings have been approved by the examiner and agreed upon by applicant: See attachment. I

In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Allowable Subject Matter

3. Claims 1-14 are allowed.
4. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggests a radio signal reception device as the current application. U.S. Patent 5,495,499 to Fenton disclose a receiver for PRN signal, wherein delay lock loop (DLL) produce a plurality of early, late or punctual early minus late correlation signals. International Publication WO 9706446 disclose a receiver of PRN code, wherein DLL produce early-late correlator or gating signals instead of early-late version of PRN code. Both art failed to meet the limitation of digital correlator produce exact copy of the input signal and gating

digital signal; select character polarity of the gating digital signal to coincide with polarity of previous character of the exact copy; and delaying the beginning of the gating digital signals relative to an end of the character of the exact copy of the pseudo-random sequence (PRS) by a value equal to $d/2$.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Zheng whose telephone number is 571-272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

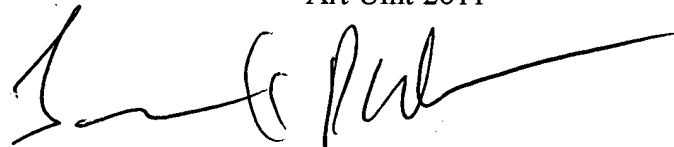
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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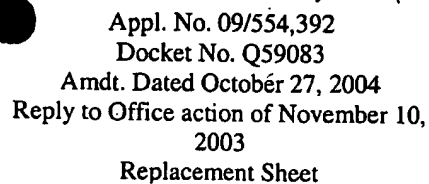
system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 20, 2006

Eva Yi Zheng
Examiner
Art Unit 2611

A handwritten signature in black ink, appearing to read "Jay K. Patel", with a long horizontal flourish extending to the right.

JAY K. PATEL
SUPERVISORY PATENT EXAMINER



The diagram illustrates the internal architecture of a GPS receiver. It starts with two external inputs: **GPS** and **GLONASS**, which feed into a **Switching Circuit** (block 1). The output of the switching circuit is distributed to four mixers (multipliers): blocks 3, 5, 4, and 6. These mixers combine the received signals with signals from a **Carrier Generator** (block 2). The outputs of the mixers are then processed by four accumulators: Q_d (block 15), Q_p (block 16), I_p (block 13), and I_d (block 14). The Q_d and Q_p accumulators also receive signals from a **Code Sequence Shaper** (block 9) and a **Code Sequence Generator** (block 10). The I_p and I_d accumulators receive signals from a **Code Frequency Generator** (block 12) and a **Channel Control Register** (block 11). The **Channel Control Register** also receives input from the **Code Sequence Generator**. The **Code Sequence Shaper** and **Code Frequency Generator** both receive input from the **Carrier Generator**. The **Code Sequence Generator** also receives input from the **Channel Control Register**. The **Carrier Generator** receives input from the **Switching Circuit**. The **Code Sequence Shaper** and **Code Frequency Generator** both receive input from the **Carrier Generator**. The **Code Sequence Generator** also receives input from the **Channel Control Register**. The **Channel Control Register** also receives input from the **Code Sequence Generator**. The **Code Sequence Shaper** and **Code Frequency Generator** both receive input from the **Carrier Generator**. The **Code Sequence Generator** also receives input from the **Channel Control Register**.

Fig. 1